



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,463	07/30/2003	Frederic Cattaneo	16080-131	9169
7590	01/15/2004		EXAMINER	
Clifford W. Browning Bank One Center/Tower Suite 3700 111 Monument Circle Indianapolis, IN 46204-5137			POKER, JENNIFER A	
			ART UNIT	PAPER NUMBER
			2832	

DATE MAILED: 01/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/630,463

Applicant(s)

CATTANEO, FREDERIC

Examiner

Jennifer A. Poker

Art Unit

2832

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/525,999.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

General Status

1. This is a first action on the merits of application filed on July 30, 2003. Claims 1-9 are pending and are being examined.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/525,999 filed on March 15, 2000 (now Patent Number 6,640,419).

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “*conical shape*” of the inner cavity of the coil, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the “conical shape” of the inner cavity of the coil as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to

Art Unit: 2832

the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

5. The disclosure is objected to because of the following informalities:

(a) Applicant makes specific references to claims within the specification. See page 2, second paragraph. Removal of reference to this claim is required;

(b) It was unclear if applicant was assigning reference number 1 to a magnetic circuit of a coil. See page 4, first paragraph under Detailed Description of the Invention. Applicant states, "A magnetic circuit with coil 1..." Because in the claim language (claim 1), applicant states, "a magnetic circuit (1). It was understood that applicant intended reference number 1 to refer to the magnetic circuit.

Appropriate correction is required.

Claim Objections

6. Claims 4-7 are objected to because of the following informalities: Even though the claims are limited by and defined by the recited process, the determination of patentability of the product is based on the PRODUCT ITSELF, and does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964,966 (Fed. Cir. 1985). Appropriate correction is required.

Art Unit: 2832

7. Claims 5 and 6 are objected to because of the following informalities: applicant states, "The magnetic circuit with coil according to the preceding claim..." It was unclear as to which preceding claim applicant was referring. It would be much appreciated if applicant would make a specific reference to which claim/claims he is depending claims 5 and 6 on. Appropriate correction is requested.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

9. Claim 3 recites the limitation "...the angle α ". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,480,088 to Okamoto in view of U.S. Patent Number 5,583,475 to Raholijaona, et al.

Okamoto discloses a choke coil comprising:

(1) coils wound around a toroidal magnetic core (because the coils are wound, they create a central cavity) (abstract; figure 1A);

Art Unit: 2832

(2) a base plate/connecting plate located at one side of the core/coil; the base houses four terminals (figure 1A; column 4, lines 45-46);

(3) a protection plate located on an opposite side of the base plate (abstract; figure 1A).

Okamoto discloses the claimed invention except for the insertion of the magnetic core.

Raholijaona, et al, discloses a method of manufacturing a coil on a toroidal magnetic circuit; the method comprising a preformed tore-shaped coil, which is slipped over top a magnetic core. This method presents the advantage of permitting the manufacture of coils, which, for identical electrical properties, are of substantially smaller volume than coils obtained in the prior art. This is due to the fact that, in the prior art, the winding of the conductor wire around a torus produces a considerable tension of the wire which requires a very thick coating of protective varnish (grade 2 wires), whereas the method according to Raholijaona, et al, is carried out without torsion of the wire, so that wires having a very much thinner coating of varnish may be used (grade 1 wires).

One skilled in the art, at the time the invention was made, would have found it obvious to combine the teachings of Okamoto with the teachings of Raholijaona, et al, and form a coil with a central cavity in order to slip a core there through. This method is beneficial for the purposes of reducing torsion of the wire/coil.

Okamoto in view of Raholijaona, et al, discloses the claimed invention except for stating the intended use of the magnetic core as a current sensor. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham 2 USPQ2d*.

Regarding claim 3, Okamoto in view of Raholijaona, et al, discloses the claimed invention except for the value $\tan \alpha$ ranging between 0.001 and 0.01. It would have been obvious to one

Art Unit: 2832

having ordinary skill in the art, at the time the invention was made, to utilize an appropriate value $\tan \alpha$ in order to maintain optimum usage of the core/coil, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With regard to claims 4-7, even though the claims are limited by and defined by the recited process, the determination of patentability of the product is based on the PRODUCT ITSELF, and does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964,966 (Fed. Cir. 1985). Appropriate correction is required.

Regarding claim 9, Okamoto illustrates in figure 1A, that the base plate/connector plate contains holes through which ends of the wire/coil are positioned.

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,480,088 to Okamoto in view of U.S. Patent Number 5,583,475 to Raholijaona, et al, as applied to claim 1 above, and further in view of U.S. Patent Number 4,408,639 to Hayama, et al.

Okamoto in view of Raholijaona, et al, discloses the claimed invention except for a guide portion on the end plate.

Hayama, et al, discloses a coil manufacturing apparatus, as seen in figure 7, comprising an end plate having coiling means which guides a filament wire for a coil while revolving around the mandrel wire to coil the filament wire around the mandrel wire.

Art Unit: 2832

One skilled in the art, at the time the invention was made, would have found it obvious to combine the teachings of Okamoto, Raholijaona, et al, and Hayama, et al, and incorporate a guiding means at an end plate in order to help guide the winding of the coil.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Poker whose telephone number is 703-305-4037. The examiner can normally be reached on 5:30-4:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on 703-308-7619. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

jap
January 5, 2004


ELVIN ENAD
SUPERVISORY PATER EXAMINER
TECHNOLOGY CENTER
01/09/04